Spatial & temporal mapping of future criminal risk as a catalyst for enforcement & reduction activity

MAPPING THE FUTURE?

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Background

- Jan/Feb 2005 analysis identifies near repeat phenomena.
- Feb/March reduction intervention devised
- April – reduction intervention begins in pilot areas of town
- January 2006 – evaluation shows overall reducing levels of burglary crime across the town - additional 6% reduction in intervention areas
- Near repeat phenomena no longer apparent (i.e. not statistically significant)

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Further thinking

- Near repeat offences still taking place
- Serial offenders responsible?
- Common offenders?
- Identify & describe personal space-time patterns?
- Predict future burglary locations?

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Representations

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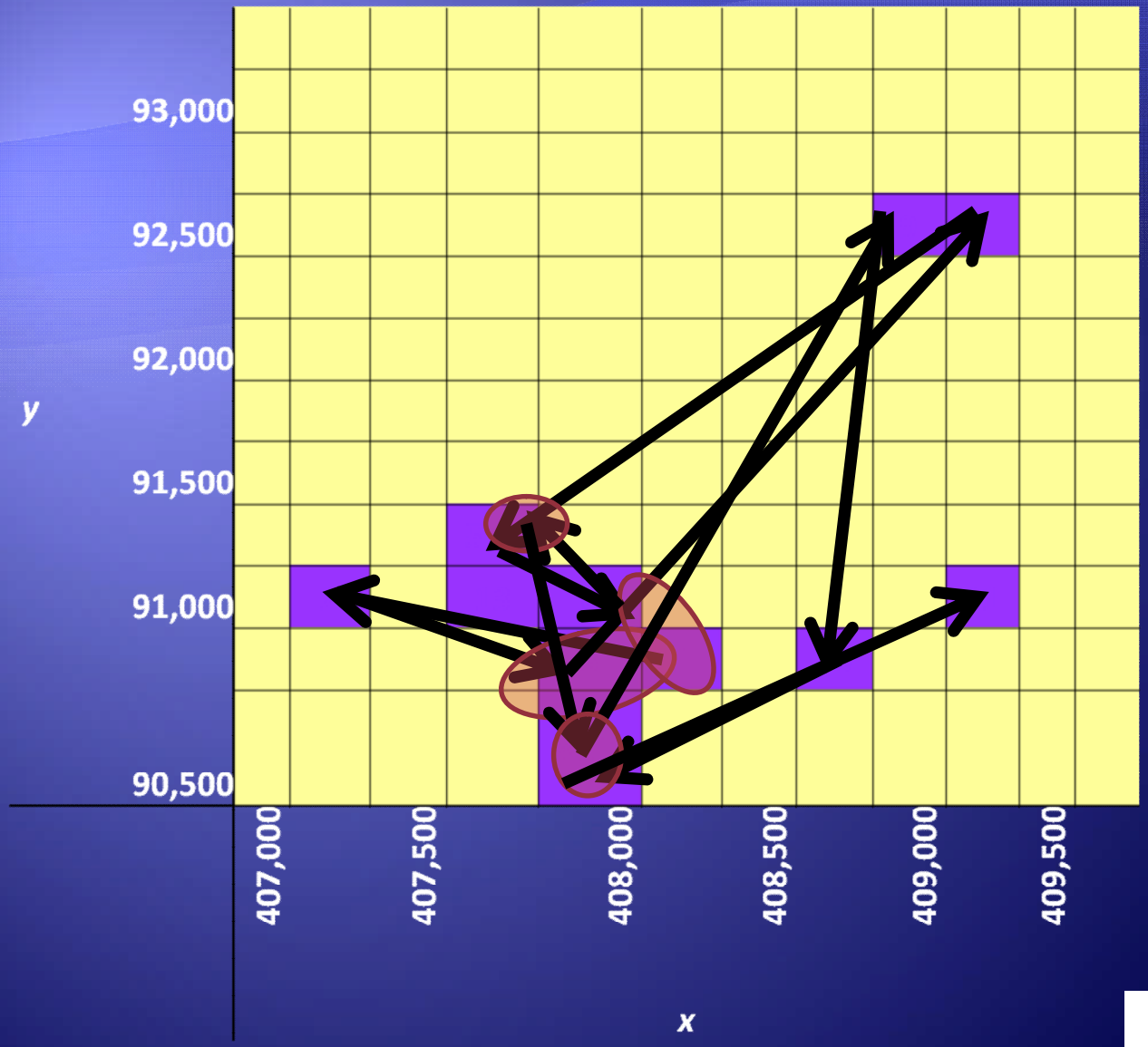
Short distances



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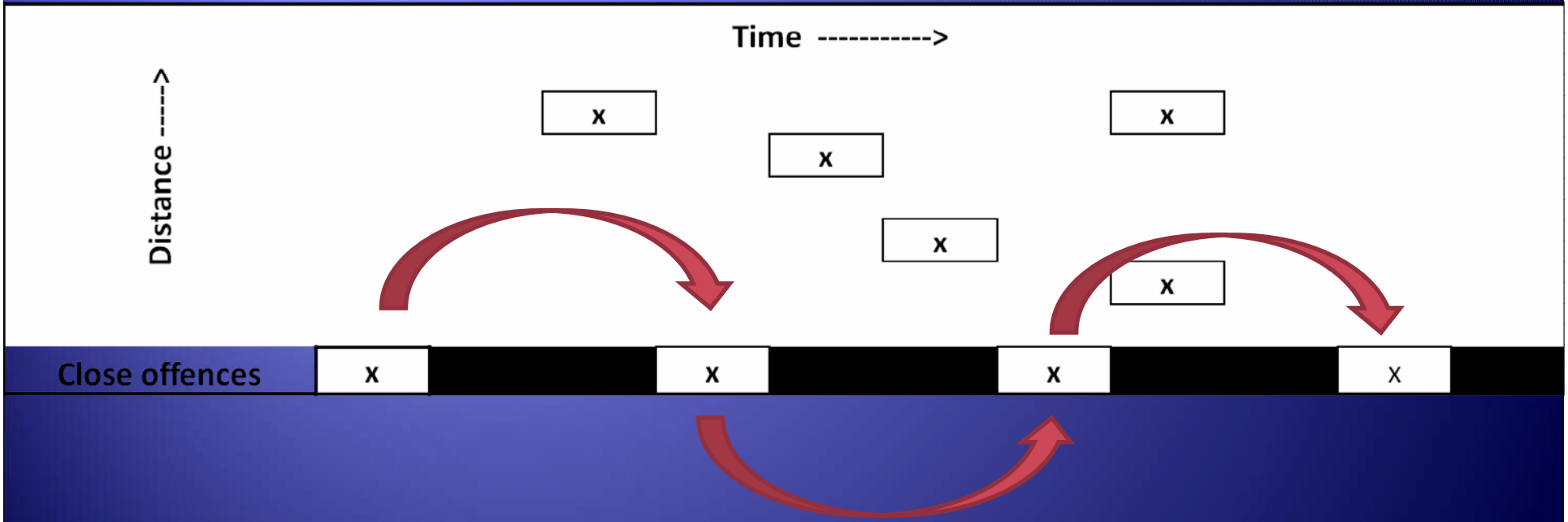
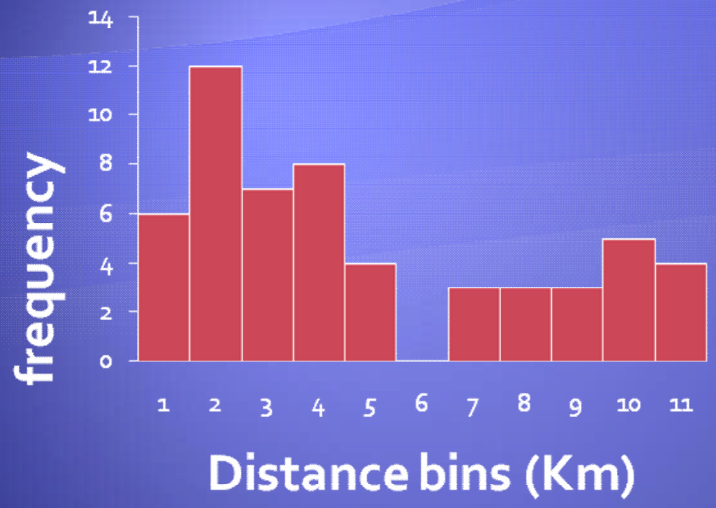
Time lapse

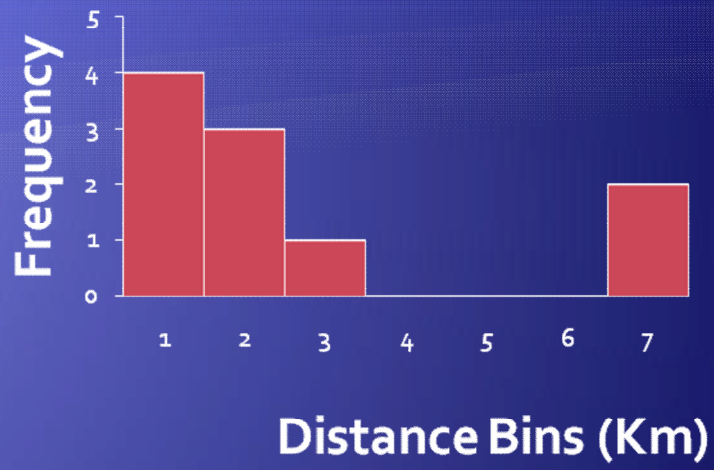


Offender analysis

Histogram of inter event distances



Histogram of future nearest neighbour distances



	Q1	Std dev.	Mean	Median	Skew	Range
Min. Distance	0.523	2.406	2.145	1.084	1.323	6.441

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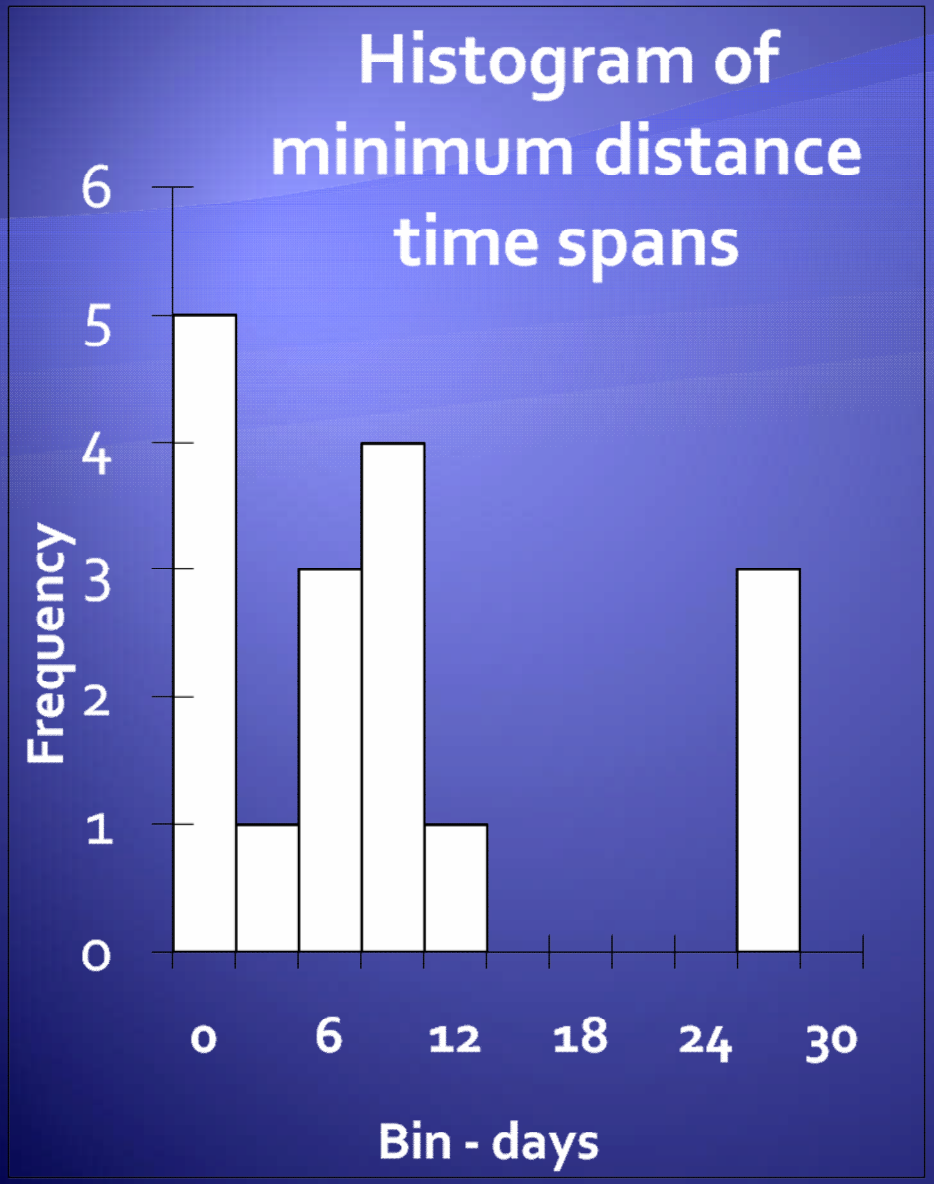
Offender analysis - time



mean	6.25
median	4.50
total days	40.00
min interval	1.00
max interval	21.00
std	6.30
pskew	0.83
Quartile 1	3.00

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Some research conclusions

- Serial offenders display 'near repeat' behaviour
- Serial offenders are consistent over time, particularly with regard to what they consider to be 'close' in distance
- Time and distance parameters can be calculated for ongoing 'real time' crime series

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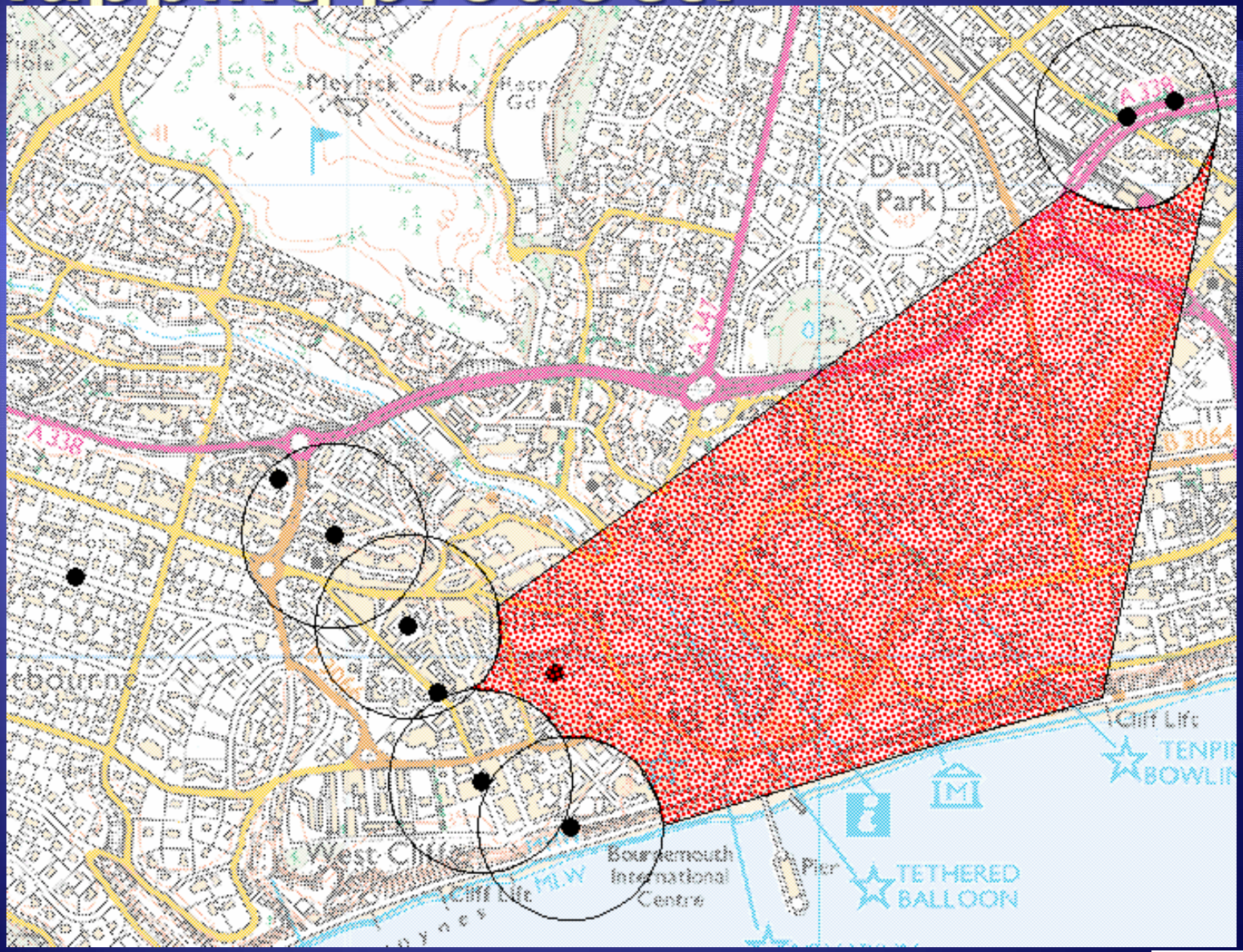
Mapping product?

Event	1	2	3	4	5	6	7	8	9	10	11
1		X									
2			X								
3				X							
4					X						
5						X					
6							X				
7								X			
8									X		
9										X	
10											X
11											

Mapping product?



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